Supply Chain Management (SCM) and Logistics Management

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Abstract

Supply Chain Management (SCM) is used to shorten the supply chain cycle, and develop or build services, reduce costs and prices. Logistics management is part of the supply chain process which includes planning, implementing and controlling the flow of goods, services and information so that efficiency and effectiveness starts from point-of-origin to point-of-consumption, and has the purpose of meeting consumer needs (*Council of Logistics Management*). Whereas SCM is an Integration process from key businesses ranging from end users to original suppliers to provide added value products, services, and information for other consumers / stakeholders. While Logistics management is very planning-oriented and a framework which results in a plan in the form of goods and information throughout the company (*which is very prioritizing the management of the flow of goods within the company*). Supply Chain Management always prioritizes the flow of goods between companies from upstream to downstream (*from companies to stores*) and involves suppliers to customers.

Keywords : *Supply Chain Management (SCM), Management Logistic*

INTRODUCTION

Supply Chain is a form of organizational system that aims to channel products and services to consumers. Supply chain is also considered as a logistics network that is able to connect interrelated links between manufacturers, suppliers, retail outlets, distribution and customers. In this concept, it is very important for logistic management to have a broader view of basic goods to become finished goods used by end consumers. Supply chain management has a complete cycle of raw material attachments from suppliers, to operational activities in the company, to distribution to consumers. The important thing that is the rationale for this concept is to focus on reducing vanity and optimizing the value of the related supply chain.

LITERATURE REVIEW

A. Definition of Supply chain management (SCM)

SCM as the integration of business processes from end users to initial suppliers to provide products, services, and information that provides added value to customers and other related parties (Croxton et al., 2001). Added value for customers relating to demand that is primarily related to the needs of the right type of product, the right quantity, the right place, the right time, the right quality, and the right costs. SCM Supply Chain Management is recognized as a competitive strategy in an industry and organization. The organization continues to strive to provide products and services to customers that are faster, cheaper and better than competitors.

In achieving success, they must work on the basis of cooperation with organizations related to the supply of chains in order to succeed. A supply chain consists of all parties involved, directly or indirectly, in meeting customer demand. SCM includes not only manufacturers and suppliers, but also warehouses, retailers and even customers themselves. In a factory, SCM includes all functions involved in receiving and filling customer requests. These functions include new product development, marketing, operations, distribution, finance, and customer service.

Supply chain management is a coordination of materials, cash flow and financial flows as well as the coordination of information of several organizations incorporated in the chain. In this management all basic

ingredients to become products to be sold to consumers will recycle existing products. In this management each supply chain has the aim of maximizing the value of the product that has been produced in its entirety. With the supply chain, it will be easy for each chain to get more value from the product.

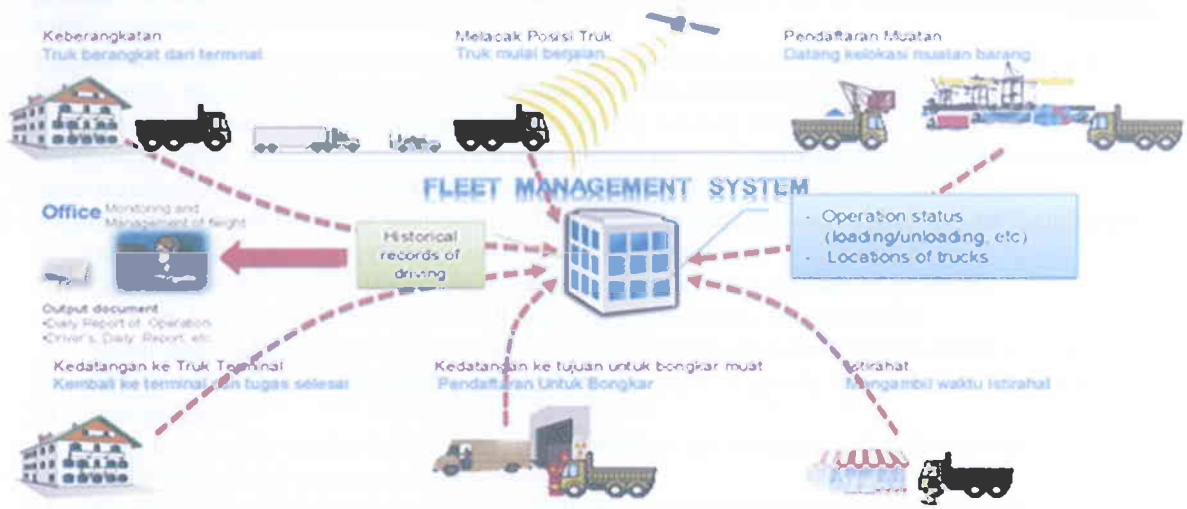


Figure 1: Rice Supply Chain Network Flow

There are 3 things that need to be considered :

1. The purpose of SCM is to do effectiveness and efficiency starting from suppliers, manufacturers, warehouse and stores. The absence of good coordination between the parties involved will result in considerable losses. One of the impacts that often occurs is the "Bullwhip effect". This happens because of a lack of coordination in the exchange of information between retail stores, distributors and companies. On the one hand when retail store managers see an increase in demand from consumers of 100 units, an increase of 100 units will be captured by distributors of 500 units and the company will catch the increase in demand by 2500 units. If noted, the information on the number 100 can reach the company like a snowball rolling over from top to bottom which is getting bigger and bigger. And this will be even more chaotic if the fulfillment of those needs is captured at a time that has been going on for quite a long time.
2. SCM has an impact on cost control.
3. SCM has an important role in improving the quality of company services to customers.
   SCM is not just talking about supplying goods simply. SCM talks about ways to integrate the supply chain of goods until the distribution of goods to end customers. This is something very complex, because so many parties are involved in the journey from suppliers, companies, distributors to end users. The increasing need for industry to compete with its product in the global market, across costs, quality and service dimensions, has driven the need to develop logistics systems more efficient than those traditionally employed. So it can be concluded that a good inventory system is increasingly needed in global competition.

B. Key Players in Supply Chain Management (SCM)

Supply Chain shows the existence of a long chain that starts from suppliers to customers, where there is an involvement of entities or so-called players in this context in this very complex supply chain network. The following are the main players involved in the supply chain:

1. Supplier (chain 1) The chain in the supply chain starts here, which is the source that provides the first material, where the chain of distribution of goods will begin. The first material here can be in the form of raw materials, raw materials, auxiliary materials, spare parts or merchandise.
2. Supplier-Manufacturer (chain 1-2) The first chain was followed by the second chain, which is a manufacturer which is a place to convert or finish goods. The relationship between the two links has the potential to make savings. For example, saving inventory carrying costs by developing the concept of supplier partnering.
3. Supplier-Manufacturer-Distribution (chain 1-2-3) In this stage the finished goods produced are distributed to customers, which usually use the services of distributors or wholesalers who are large traders.
4. Supplier-Manufacturer-Distribution-Retail Outlets (chain 1-2-3-4) From the wholesaler, the goods are distributed to retail stores. Although there are several factories that directly sell their products to customers, there are relatively few in number and most use the pattern above.
5. Supplier-Retail-Outlet-Customer Manufacturer-Distribution (chain 1-2-3-4-5). Customers are the last chain in the supply chain in this context as end-users. So what is meant by :
    1. Customers today, people who have the potential to buy products, or users of products.
    2. Retailers People or businesses sell retail items. Retailers are also called retailers.
    3. Distributors / wholesalers People or companies that transfer goods from manufacturers to retailers or directly to customers and transfer information and costs of goods from retailers / customers to manufacturers.
    4. Manufacturer Companies that process raw materials or semi-finished materials into finished goods which will be used to meet customers' needs
    5. Supplier (row material supplier / component) People or companies that provide components (material) *that will be processed by the manufacturer into a product.*

C. Push, Pull, And Push-Pull System

Traditional supply chain management strategies are often categorized into two types, namely push and pull strategies. However, in its development, it became known as push-pull strategy, which was briefly explained as follows:

1. **Push-Based Supply Chain**

   In push-based supply chain, production and distribution decisions are based on long-term planning, so the factory is based on the estimated demand for orders received from retailers. Or with another understanding of push-based supply chain is an action to anticipate needs with a management process in an effort to reduce the possibility of stoke-out risks.
2. **Pull-Based Supply Chain**

   In the pull-based supply chain, production and distribution are based on demand so that it is more coordinated with real consumer demand than demand estimates. Or in other words, push-based supply chain is in the service of demand so that the production process runs by considering the possible inventory / inventory. The difference between pull system and push system is that push manufacturing systems require inventory availability to support the smooth production process, while the pull manufacturing system requires the absence of inventory because it is seen as a cost burden. By understanding these two supply chain management strategies, it can be understood the advantages and disadvantages of both, which can then be taken advantage of the two strategies which can then be known as push-pull strategy.
3. **Push-Pull Supply Chain**

   Ideally, in supply chain activities, management uses the approach between push and pull-based, and then this is known as push-pull boundary. To better understand this strategy, consideration of the supply chain time line is defined as the time between ordering raw materials, as the prefix of the line and sending orders to customers as the end of the line time. In practice, "push" is part of the supply chain management at the time before the assembly is done, while "pull" starts from the assembly based on customer demand / order.

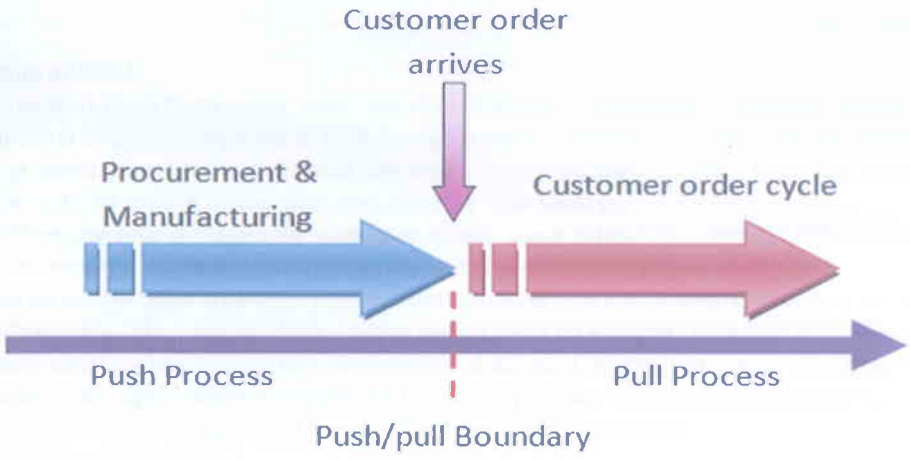


Figure 2 : Push, Pull, And Push-Pull System

D. Uncertainty In The Supply Chain

SCM aims to fulfill the customer's demand by involving the actors and related parties in the supply chain. In a supply chain there is uncertainty. This uncertainty is caused by various factors, including the aspects of demand (demand) and aspects of supply (supply).

1. Product variations, Variations in products needed or requested by customers vary. These variations include brand, size, etc. 2. Variation in product quantity. Customers need products in various quantities. For a particular product, for example, a customer needs a product in small quantities (in units), while another customer needs it in large quantities (in a carton or pallet). High customer demand quantity differences will increase uncertainty in the supply chain.
2. Forecast forecasting on the pull system is still used as stakeholder consensus (customers, suppliers and manufactures). This consensus is needed so that there is an understanding of the system system cotton to maintain the supply chain smoothness. The information flow system pulls in the picture below.

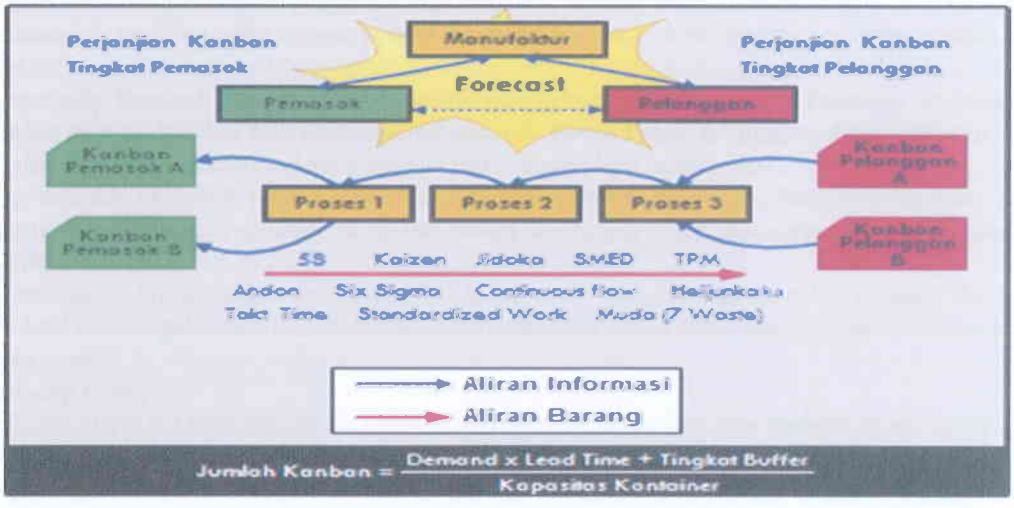


Figure 3 : Supply Chain

The pull system is an action to serve requests that require the absence of inventory because it is seen as a cost burden. Therefore in extreme forms, there is no work, in the pull system until the manufacturing receives an order. In the real world it is not appropriate to say that the pull system has no inventory.

E. Application of SCM

Demand uncertainty varies from low to high levels of uncertainty. Similarly, supply uncertainty. The application of SCM is expected to be able to anticipate or manage these uncertainties. Management can be done in terms of supply and demand, although in practice there is more from the supply side. The application of SCM is done by choosing and using the right strategy.

There are four strategies for managing supply chain effectively, namely: Efficient supply chain; risk-hedging supply chain, responsive supply chain; and agile supply chain.

1. Efficient supply chain is suitable for functional products with stable supply processes. In environmental conditions like this, a supply chain strategy should focus on a strategy to reduce costs. Products like this usually exist in a high competitive environment dominated by low cost competition strategies.
2. Risk-hedging supply chain is suitable for functional products with unstable supply processes. Focus of the supply chain strategy should be on product availability guarantee.
3. Responsive supply chain.
4. Agile supply chain.

F. Obstacles in Supply Chain Management (SCM)

SCM is something very complex, where many obstacles are faced in its implementation, so that in its implementation it requires stages starting from the design stage to the evaluation and continuous improvement stages. In addition, the implementation of SCM requires support from various parties starting from the internal, in this case all top management and external, in this case all existing partners. The following are the obstacles that will be experienced in the implementation of SCM which further reinforce the argument that the implementation of SCM does require the support of various parties:

1. Increasing Variety of Products. Now consumers are spoiled by producers, we see more diverse types of products on the market. We also see the company's strategy that is always customer-focused. If in the past the producers made a strategy by dividing segments into customers, now consumers are more spoiled by throwing products according to the wishes of each individual rather than according to the desires of certain segments. The many types of products and the amount of the uncertainty of each product makes producers increasingly overwhelmed in satisfying the desires of consumers.
2. Decreasing Product Life Cycles. The decline in the life cycle of a product makes the company more troublesome in regulating the supply strategy of goods, because to regulate the supply of certain goods, the company needs a certain amount of time. Product life cycle is defined as the age of the product on the market.
3. Increasingly Demand Customer. Supply chain management tries to manage (manage) an increase in demand quickly, because now customers increasingly demand rapid fulfillment of demand even though the demand is very sudden and not a product that is customized (customized).
4. *Fragmentation of Supply Chain Ownership. This illustrates that the supply chain involves many parties* who have their respective interests, so this makes the supply chain management more complex and complex.
5. Globalization. Globalization makes supply chains more complex and complex because the parties involved in the supply chain include parties in various countries that may have locations in various corners of the world.
6. Bullwhip Effect

   Bullwhip effect is a term used in the world of inventory which defines how demand moves in the supply chain. Bullwhip is a whip, a tool to control a cow or bull. The concept is a situation that occurs in the supply chain, where the demand from the customer changes, both more and less, this change causes a distortion of demand from each stage of the supply chain. This distortion has an effect on the whole stage of the supply chain, which is inaccurate demand. According to Baihaqi, the Bullwhip effect is a phenomenon where a small jump at the consumer level will result in a very sharp surge at a level far from the consumer. The effect of this condition is the increasingly inaccurate demand data.

G. Stages of Supply Chain

Successful supply chain management requires many decisions relating to the flow of information, products, and funds. Every decision must be made to increase supply chain. These decisions fall into three categories or phases including:

- Supply chain strategy or design

  Determination of the supply chain structure and processes that will be carried out at each stage in the long term. This structure explains the configuration of the supply chain going forward and how the strategy / design will be allocated and what processes will run at each stage Supply chain strategic decisions include:

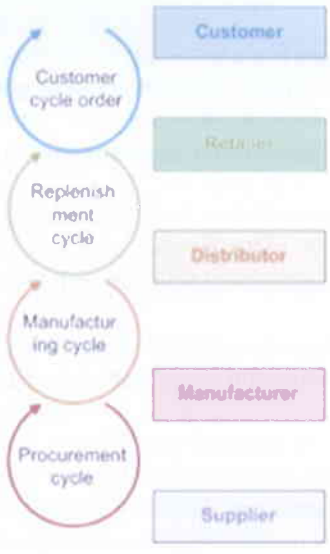
  1. Location and facility capacity
  2. Products to be made or stored
  3. Transportation mode
  4. Information system

H. Competitive and Supply Chain

Strategic fit strategy is consistency between customer priorities which are expected to be fulfilled by competitive strategies and value chain capabilities that can be built with supply chain strategies. Strategic fit is achieved in three stages, namely:

1. Understanding customers and supply chain uncertainties (Understanding the Customer and Supply Chain Uncertainty). First, companies must understand customer needs in each segment and supply chain uncertainty that is faced with meeting needs. This need helps companies find the desires of service costs and requests. Supply chain uncertainty helps companies identify levels of inability to predict demand, disruptions and delays.
2. Understanding the ability of supply chains (Understanding the Supply Chain Capabilities) There are several types of supply chains, each of which is designed for the implementation of different tasks. Companies should know how the supply chain is designed well.
3. Achieving a fit strategy (Achieving Strategic Fit) if there is not comparable competition between the supply chain and customer needs, the company will also reorganize the supply chain to support competitive strategies or change competitive strategies. So the bottom line: The first step in achieving a fit strategy between competitive and supply chain strategies is understanding customers and supply chain uncertainty. Uncertainty from customers and supply chains can be combined and mapped in the spectrum of uncertainty. The second step in achieving a fit strategy between competitive and supply chain strategies is understanding the supply chain and mapping it to the spectrum of reaction capabilities. The final step in achieving a fit strategy is to match the supply chain reaction capabilities with the uncertainty of demand and supply. The supply chain design and all functional strategies in the company must be able to support the level of supply chain reaction capabilities. The scope of fit strategy is the functions that exist in the company and the right steps that can find a strategic relationship with the goal. The inter-company scope of the fit strategy at this time is important because competition in the company's area with the company has turned into a competitive supply chain with one another. Company partners in the supply chain will determine the success of the company. The inter-company scope of the fit strategy requires an evaluation of each action on overview of Supply Chain Processes, There are two ways to look at the processes carried out in the supply chain.

Figure 4 : Cycle view - a series of cycles that occur between stages in the supply chain



I. The purpose of Supply Chain Management

According to Stevenson, the purpose of supply chain management is to harmonize demand and supply effectively and efficiently. Some of the main problems in the supply chain are related to:

- Determination of the appropriate level of outsourcing
- Management of procurement of goods
- Supplier management
- Manage customer relationships
- Identify problems and respond to the problem
- Risk management
- According to I Nyoman Pujawan; The strategic goal of the supply chain is to win market competition or at least survive. Therefore, according to I Nyoman Pujawan, to be a winner in market competition, the supply chain must be able to provide products that:
    1) Cheap
    2) Quality
    3) On time
    4) Varies

J. Supply Chain Management Process

This supply chain management process is divided into three types of responsibilities, including:

1. Material Flow; This material flow involves the movement of raw products from suppliers to consumers and also from consumers who return or return products, services, recycling and disposal.
2. Information Flow; This information flow contains demand predictions, information on the movement of goods, and also updating the status of the item whether it has been sent or not.
3. Financial Flow; Financial flows contain payments, lending lines, scheduling payments to ownership agreements.

Accurate flow of information and moving easily between links, and effective and efficient movement of goods are key success factors in supply chain management. According to Indrajit and Djokopranoto, there are several players in the supply chain, including:

1) Supplier
2) Manufacturer
3) Distributor / wholesaler

4) Retail outlets
5) Customers

K. Problems in Supply Chain Management

There are a number of things that must be controlled by chain supply management. They must know the area of the distribution network starting from the number, location of suppliers, production facilities, distribution centers, warehouses to customers. They generally think of the distribution strategies that are carried out, including decentralization or centralization, direct shipping, third-person logistics, cross-anchoring or attraction strategies.

In this case, supply chain management will need an information system that can be integrated quickly so that the distribution process of this item runs smoothly. They must share price information, inventory and transportation matters. Not only that, this field is also required to regulate payment terms and methodology.

Looking at it from the understanding of supply chain management, this field is classified as the most complicated and busy. How not, they must ensure the flow of information is fast and evenly integrated so that the stock of goods is not short or not excess.

Sometimes what makes it difficult is to make sure the items arrive at the consumer with a detailed payment system. A special system is needed to regulate this stage in addition to communication between members and suppliers to retailers. Because, they are one of the important chains of corporate survival. Well, understanding supply chain management is expected to be applicable in your business. Even though it is still in the developing stage, it doesn't matter if it starts to have a neat distribution system.

This is a brief explanation of the meaning of SCM or supply chain management, SCM components, objectives and processes.

- **Supply Chain Management vs. Logistics Management**

  Understanding what supply chain management is not easy, although in general this is a work system that regulates the distribution of goods and services from producers to consumers. In this system, one of them has logistical management activities. Roughly the two look the same, but if more detailed, the difference will be seen. Both are related to the management of the flow of goods and services, namely management of the purchase, movement, storage, transportation, administration and distribution of goods. In essence, both of them involve efforts to improve the efficiency and effectiveness of goods management.

Differences in Logistics Management with Supply Chain Management

Logistics Management	Supply Chain Management
Logistics is part of supply chain activities. These activities are led by a section head.	Broader supply chain. This is about supply chain management (supply) starting from upstream to downstream to consumers. This is the responsibility of the supply chain manager.
Logistics includes activities such as warehouses, goods distribution, freight transportation, and sales order processing.	Covering all logistics activities coupled with several more activities such as purchasing (procurement), procurement (procurement), production capacity planning (capacity planning), supply planning (supply planning), and planning needs (forecast demand).
Focusing on optimizing orientation plans and frameworks in the form of making a single plan for the flow of products and information within the company.	The most important activities in the supply chain are how to balance supply with demand.
Prioritizing the management of goods flows within the company, planning-	Prioritizing the direction of goods between companies, from the most upstream to the most

oriented and a framework that produces a single plan for the flow of goods and information throughout the company.	downstream. On the basis of this framework link business and coordination between processes from other companies in pipelines ranging from suppliers to customers

A supply chain director will usually oversee procurement, logistics, supply planning, customer order, and demand planning. Viewed from the information system side that is usually implemented, the logistics department usually has an information system called WMS (Warehouse Management System) which includes warehouse management activities, transportation scheduling, and management of goods in and out (inbound-outbound). At greater coverage, supply chain usually involves an information system called ERP (Enterprise Resource Planning) which includes various planning activities ranging from material planning, production scheduling, inventory planning, to sales planning. Because of the large scope of planning activities that exist in ERP information systems, this information system is usually broken down into several modules. The WMS module is usually one part of the ERP modules.

- **Relationship between Supply Chain Management and Logistics**

The relationship between supply chain management (SCM) and logistics is that SCM is an important part of logistics management as one of the supporters in the distribution flow or material flow (Hendayani, 2011). According to the Council of Supply Chain Management Professional (CSCMP) based in the United States logistics management is part of supply chain management that plans, implements, and controls the level of efficiency and effectiveness of the flow and storage of goods, services and related information from upstream to downstream and on the contrary, starting from the point of origin of the goods to meet the requirements and requests from the customer. Logistics management has a role that is more related to the flow of goods and services starting from before the production operation process to the finished product that is sent to customers. Whereas SCM technically regulates the relationship of various parties involved in the process regulated by logistics management and is one of the supporting factors for the success of logistical management.

The purpose and importance of supply chain the purpose of the supply chain is to ensure a product is in the right place and time to meet consumer demand without creating excessive stock or shortages and providing big profits for the company. The goal in the supply chain is to maximize the overall value of the supply chain created. Supply chain value: Final Product Value - Total Supply Chain Cost SC Value = Price of Widget - Cost of all Phases in SC Value = Profit of SC H. Logistics Management versus Supply Chain Management There are several definitions of logistics, according to the Council of Logistics Management (CLM), logistics is part of the supply chain management process that plans, realizes and controls the efficiency and effectiveness of the flow and storage of goods and services and related information between consumption points to meet customer needs. Logistics is responsible for ensuring that a right product is in the right place, at the right time, in the right condition with the right price, for customer satisfaction. Activities included in logistics performance include warehousing, packing, third party activities, inbound and outbound transportation, distribution, inventory, control, purchasing location planning and production maintenance management and customer satisfaction. A good logistics system will make goods or services reach customers in a timely manner and at competitive prices, two main things in meeting customer satisfaction. One very important aspect of logistics is inventory management, there must be a balance between sufficient and not too much, because inventory is expensive and hides a lot of inefficiencies. Inventory is an inventory flow rather than inventory buildup.

Logistics Management and Supply Chain Management Prospects A reality that must be felt today, especially in the era of free trade and globalization, that competition is no longer a product against products or even companies against companies but rather supply chains against supply chains. Why? Supplying customers with the right product solutions, at the right price and at the right time requires excellent collaboration and coordination of all resources (human, technology, production capabilities, etc.) from each part of the supply chain to meet or even exceeding customer expectations. Supply Chain

Management and competent logistics are vital in the future and for this reason practitioners are required to always be able to master supply chain and logistics up to date and understand trends in that field.

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